

A Peculiar Condition of Iron

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immersed do not (in a sensible manner) chemically
 act upon it;
 and that no evolution of oxygen at the anode in
 contact with
 iron under any circumstances takes place, if
 besides oxygen
 another anion is set free possessed of a strong
 affinity for iron.
 This metal having once had oxygen evolved at
 itself, proves
 always to be indifferent to nitric acid of a certain
 strength,
 whatever may be the chemical nature of the fluid
 in which the
 phenomenon has taken place.

I have made a series of experiments upon silver,
 copper, tin,
 lead, cadmium, bismuth, zinc, mercury, but none
 showed any
 resemblance to iron, for all of them were oxidised
 when serving
 as positive electrodes. Having at this present
 moment neither
 cobalt nor nickel at my command, I could not try
 these mag-
 netic metals, which I strongly suspect to act in the
 same manner
 as iron does.

It appears from what I have just stated that the
 anomalous
 bearing of the iron has nothing to do with its
 degree of affinity
 for oxygen, but must be founded upon something
 else. Your
 sagacity, which has already penetrated into so
 many mysteries
 of nature, will easily put away the veil which as yet
 covers the
 phenomenon stated in my letter, in case you
 should think it
 worth while to make it the object of your
 researches.

Before I finish I must beg of you the favour of
 overlooking
 with indulgence the many faults I have, no
 doubt, committed
 in my letter. Formerly I was tolerably well
 acquainted with
 your native tongue; but now, having been out of
 practice in
 writing or speaking it, it is rather hard work to me
 to express
 myself in English.

It is hardly necessary to say that you may
 privately or
 publicly make any use of the contents of this letter.
 —I am, Sir,
 your most obedient Servant,

C. T. SCHOENBEIN,
 BALE, May 17, 1836. Prof. of Chem. in the University
 of Bale.

DEAR PHILLIPS,—The preceding letter from
 Professor Schoen-
 bein, which I received a week or two ago, contains
 facts of such
 interest in relation to the first principles of
 chemical electricity,
 that I think you will be glad to publish it in your
Philosophical
Magazine. I send it to you unaltered, except in a

word or two
here and there; but am encouraged by what I
consider the
Professor's permission (or n rather the request with
which he has
honoured me), to add a few results in confirmation
of the effects